

Remarks

I. Status of the Application and Claims

As originally filed, the present application had a total of 18 claims. These were cancelled and replaced with claims 19-39 in a Preliminary Amendment submitted at the time of filing. Claims 32-36, 38 and 39 were withdrawn as the result of a restriction requirement and, in previous responses, claims 38 and 39 were cancelled and claims 40 and 41 were added. Thus, the claims now pending are 19-31, 37, 40 and 41. Claims 32-36 have been withdrawn but not cancelled.

II. The Amendments

No amendments have been made herein.

The Rejections

I. Rejection of Claims Under 35 U.S.C. § 102 and 103

On pages 2-9 of the Office Action, the Examiner rejects all pending claims under either 35 USC § 102 or 35 USC § 103. Claims 19-26 and 28-31, 40 and 41 are rejected as anticipated by, or obvious in light of, Bertsch-Frank (US 5,902,682). The Examiner argues that this reference discloses solutions for applying an outer coating that fall within the scope of Applicants' claims. The Examiner also argues that even if the reference is not anticipatory it, renders Applicants' claims obvious because any undisclosed elements would be found as a result of routine optimization procedure.

Claims 19-26, 28-31, 40 and 41 are also rejected based upon a combination of Bertsch-Frank and CA 2,326,560. The Bertsch-Frank reference is relied upon for the reasons set out above and the Canadian application is cited as teaching other claim elements, such as compositions containing sodium sulfate.

Finally, claims 27 and 37 are rejected based on Bertsch-Frank, or the '560 reference, in combination with Bailey, *et al.* (US 6,017,867). Bailey is cited as teaching granular detergent compositions with alkali metal percarbonates. The compositions have particles of 250-900 µm and may include hydrophobic materials such as silica.

Applicants respectfully traverse these rejections.

A. Comments re Novelty

The Examiner has cited two sections in the Bertsch-Frank reference that allegedly disclose Applicants' invention. The first section, column 8, lines 45-55, is cited primarily as disclosing an aqueous solution comprising 2-15 wt% alkali metal silicate for coating peroxygen particles with an outer layer comprising alkali metal silicate. This is important because one of the main things that Applicants have relied upon in distinguishing the prior art is the discovery of a correlation between the concentration of this solution and the rate at which particles release active oxygen. The relevant section reads as follows:

Aqueous solutions used [for coating layers]: MgSO₄ solution (30 or 20 wt. % MgSO₄); Na₂CO₃ solution (30 or 20 wt. % Na₂CO₃); sodium silicate solution ca. 37°Bé (SiO₂:Na₂O₃ about 3.5:1); **combined Na₂CO₃/sodium silicate solution (20 wt. % Na₂CO₃, 8 wt. % sodium silicate), prepared from a sodium waterglass solution with ca. 37°Bé and a SiO₂ to Na₂O molar ratio of about 3.5 to 1.** The temperature of the solutions being sprayed is 30 to 40°C.

The solution that the Examiner has pointed to is the "combined Na₂CO₃/sodium silicate solution" and, for convenience, I have put the portion of the quotation referring to this solution in bold. It is prepared from a sodium waterglass solution which is described by the underlined text. It is important to recognize that this sodium waterglass solution is *not* the one that is being used to form the mixed Na₂CO₃/sodium silicate outer layer of tablets. Instead, it is being used to make the solution being applied to form an outer layer *i.e.*, it is a precursor. The concentration of the sodium waterglass solution (*i.e.*, the concentration of sodium silicate) is not provided in the quote but, as discussed in considerable detail in the response filed by Applicants on February 23, 2008, there is a relationship between degrees Baumé and concentration which suggests that, at 37°Bé and the given modulus and temperature range, the concentration of sodium silicate should be much greater than 20%. In order to prepare the coating solution described in the reference, it appears that the sodium waterglass precursor is mixed with a solution of Na₂CO₃ to arrive at a coating solution with 8% sodium silicate and 20 wt% Na₂CO₃. Since Applicants claims specify a range of 2-15 wt% alkali metal silicate and do not exclude other substances from being present, it may appear that the solution disclosed in Bertsch-Frank is included within the scope of the claims.

However, there is another claim limitation which requires that the main component in the outer shell of peroxygen particles be an alkali metal silicate. In the coating solution disclosed in the reference, there is 2.5 times more sodium carbonate than sodium silicate present on a weight basis and, according to our calculation, almost three times more sodium carbonate on a molar basis. Obviously the metal silicate is not the main component of the coating solution and will not be the main component in an outer shell layer formed in the manner described in the reference, spraying followed by drying. Thus, any peroxygen particles made by the "combined Na_2CO_3 /sodium silicate solution" disclosed in Bertsch-Frank will not fall within the scope of Applicants' claims and will not be anticipatory.

The second section of the Bertsch-Frank reference that the Examiner cites is column 10, lines 55-69. This section reads as follows:

Coating was performed each time with magnesium sulfate (5 wt. %), sodium carbonate (5 wt. %) and sodium waterglass (2 wt. %, $\text{SiO}_2:\text{Na}_2\text{O}=3.5$ to 1), wt. % with reference to the NaPc used. Mono-layered coating (E5) was performed by simultaneous use of a MgSO_4 solution and an aqueous solution containing Na_2CO_3 and sodium waterglass, which were sprayed onto the NaPc by means of a three-component nozzle. In the case of two-layered coating (E6), the solutions mentioned were used one after the other by means of a two-component nozzle. In the case of three-layered coating (E7), the MgSO_4 solution, a Na_2CO_3 solution and lastly a sodium waterglass solution were sprayed on one after the other.

The Examiner suggests that an 8% solution of sodium silicate is referred to in this section and would be used if sodium were the only component in the outer coating. However, the basis for this conclusion is not at all clear. The only 8% sodium silicate solution described previously in the reference had 20% sodium carbonate and, as discussed above, would not form particles falling within the scope of Applicants' claims. The previously described sodium waterglass solution has, as far as can be determined, a sodium silicate concentration well above 20%. Finally, it should be noted that the percentages given in the cited section for the amount of sodium waterglass are relative to total particle weight and do not refer to a solution concentration.

Given the above considerations, Applicants respectfully submit that there is no basis for rejecting claims on novelty grounds based upon the Bertsch-Frank reference. Since the

other references cited are also clearly not anticipatory, it is respectfully requested that the rejection of claims under 35 USC §102 be withdrawn.

B. Comments re Obviousness

The Examiner's main argument with respect to obviousness is that, even if Bertsch-Frank and the other references do not disclose a relationship between the concentration of the solution used to form the outer layer of particles and the rate of active oxygen release, the concentration would be optimized in the routine course product development.

Applicants respectfully submit that there is no basis for concluding that one of skill in the art would try to improve the characteristics of sodium peroxygen particles by adjusting the concentration of alkali metal silicate in the solution used to form their outer layer. It must be remembered that, prior to Applicants invention, no one knew of a relationship between this concentration and any particle characteristics. One of skill in the art might attempt to change the amount of alkali metal silicate in the outer layer, which was known to be a result effective variable for the rate of active oxygen release, but there was no reason whatsoever to believe that particle characteristics might be changed by keeping the total amount of alkali metal silicate in the outer layer constant but changing its concentration in the solution used to prepare the outer layer. Applicants' discovery of a connection between the concentration of alkali metal silicate in solutions used to prepare outer coating and particle dissolution is unexpected and counterintuitive.

The Examiner also suggests that a side by side experimental comparison is needed to rebut the rejections that were made on novelty and obviousness grounds. However the burden of an Applicant having to provide evidence to rebut a rejection only occurs after a prima facie case has been made. In the present instance, prima facie rejections have not yet been established and there is sufficient information provided in the references cited by the Examiner to determine that, in fact, they do not destroy patentability.

II. Provisional Double Patenting Rejection

On pages 10 and 11 of the Office Action, claims 19-31, 37 40 and 41 are provisionally rejected on nonstatutory obviousness-type double patenting grounds. The Examiner alleges that the instant claims are obvious with respect to claims 1-13 in US 11/301,330 and with respect to claims 16-25, 30 and 31 in US 10/539,285. In this regard, Applicants would like to inform the Examiner that the '285 application has now received a Notice of Allowance.

Since the claims in the present application could still undergo substantial revision that may affect the Examiner's conclusion that obviousness type double patenting exists, Applicants would like to defer a consideration of this rejection until such time as the claims have been found to be otherwise allowable.

Conclusion

In light of the considerations above, Applicants believe that all of the Examiner's rejections on statutory grounds have been overcome. It is therefore respectfully requested that these rejections be withdrawn and that the claims now pending be allowed. Early notice to this effect is earnestly solicited.

If, in the opinion of the Examiner, a phone call would help to expedite the prosecution of this application, the Examiner is invited to call Applicants' undersigned attorney at (240) 683-6165.

Respectfully submitted,

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